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CASE OF DOUBLE LIGATION OF THE VASA DEFERENTIA FOR HYPERTROPHY OF THE PROSTATE.

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T. McB., aged seventy, male. Ireland. Married. Cabdriver. Admitted to Presbyterian Hospital, June 22, 1895; discharged August 27, 1895. Cured.

Previous History.—Had never had rheumatism, syphilis, or malaria. Had, when young, a short attack of gonorrhœa. For the past nine or ten years he was troubled with frequent urination. Five years ago he had a sudden attack of retention, with constant dribbling, which yielded to Sitz baths, rest, and catheterization. Afterward involuntary dribbling from overdistention troubled him at times, and frequency was greater than it had been before.

Present Illness.—Two weeks ago on getting up he was unable to pass any urine. He was treated for five days, as on the previous occasion of retention, without improvement of his symptoms, and then sent into the hospital.

On admission, complains of inability to pass a drop of urine. Temperature, 98·2°; pulse, 96; respiration, 18. Urine acid; shows a moderate trace of albumin, some pus, and muco-purulent shreds; no casts. Lungs emphysematous. Rectal examination shows a rather symmetrical enlargement of the prostate, suggesting the size of a billiard ball. Bladder examined negatively for stone. Meatus urinarius admits only 17 F. instruments. No difficulty in passing such sized instruments through the prostatic urethra.

Treatment.—Regular catheterization, rest in bed, light diet.

July 2d.—Meatus and fossa navicularis incised so as to admit instruments of 32 F. caliber to the bladder, thinking it possible that this might react favorably upon the condition of complete retention if the cause resided in the posterior urethra. During the next ten days the patient was kept in bed and regularly catheterized with a gun silk in-

Patient during the third week after double ligation passing urine voluntarily.

strument of 30 F. There was not the slightest improvement, and all the most careful observation pointed to the hypertrophied prostate as the reason for his retention.

On July 11th ten minims of a four-per-cent solution of cocaine was injected into the tissues overlying the spermatic cords close to the external abdominal ring.

The vasa deferentia was separated to the extent of an inch from the cord, and double ligatures of fine silk a quarter of an inch apart placed on each vas. The vas was not severed. Wounds were closed with continuous fine black silk suture, and covered with the usual iodoform gauze dressing. The patient was returned to bed and kept under the same conditions as those pertaining before the operation. Until July 18th, seven days after the operation, all urine was passed through a

catheter. On this day a few drops, estimated as two drachms, were passed voluntarily. From this date until he was discharged as accurate measurements as was possible were kept of the quantities of urine passed through the catheter and the urethra respectively.

	By catheter.	By urethra.	Greatest amount of residual urine found at any time each day after voluntary micturation.
July 19	All.	0 ounces.	
" 20	"	0 "	
" 21	32 ounces.	2 "	
" 22	24 "	11 "	
" 23	49 "	3½ "	
" 24	28 "	5 "	
" 25	31 "	10 "	
" 26	28 "	12 "	
" 27	41 "	20 "	
" 28	23 "	15 "	
" 29	29 "	25 "	12 ounces.
" 30	13 "	29 "	6 "
" 31	13 "	27 "	5 "
Aug. 1	5 "	28 "	5 "
" 2	9 "	39 "	9 "
" 3	5 "	42 "	5 "
" 4	7 "	31 "	7 "
" 5	Catheter not used.	43 "	
" 6	" "	44 "	
" 7	5 ounces.	47 "	5 "
" 8	5 "	39 "	5 "
" 9	3½ "	32 "	3½ "
" 10	2½ "	38 "	2½ "
" 11	3 "	37 "	3 "
" 12	3 "	27+ "	3 "

Measurements of urine here discontinued.

After August 1st the patient was catheterized once a day immediately after some one morning urination; during this time the greatest quantity of residual urine found was nine ounces, and the smallest quantity two ounces and a half.

Since being discharged from the hospital this patient has been under my observation. He has returned to his old occupation, and reports himself better than at any time during the past ten years, in that his urinary intervals are longer, and he has no vesical discomfort. I have always tested the amount of residual urine, and never found more than three ounces and a half, and generally two or two and a half. He uses a catheter once daily. There is no evidence of testicular atrophy or of any change in the epididymes, as remarked by physicians who have examined him at society meetings where he has been shown. The only disturbance which may have been attributable to the operation was a sense of heat and itching in the feet and legs, especially at night. This possible reflex symptom is not so much complained of at present.

The urethral distance is now eight inches and three quarters. The prostate is about the size of a duck's egg.

When this patient gave me the privilege to attempt anything for the relief of his retention I decided to test the efficacy of the trifling operation already described. If it failed, I had a chance of trying castration. When Dr. Mears suggested double ligation of the vasa deferentia as a substitute for Dr. White's operation, the latter promptly tested it on dogs, and was surprised to find that little if any difference in the marked loss of weight of the prostate was shown by the two procedures.

I have not seen recorded in this country any operation of this kind on man for the specific purpose indicated prior to my own; but I presume it has been done, and that this statement will be sufficient to elicit responses which will correct my oversight.

The functional result following (and presumably due to) the operation of double ligation has been so satisfactory in my single case that I feel I could not have asked for more had it followed castration. And when the relative risks of double ligation and prostatectomy, whether intra- or extra-vesical, are considered, I would not for a moment hesitate, in a similar case, to first give the patient the benefit of a chance of functional restoration by double ligation.

Having observed one fatal issue after castration where vigor and general health were apparently as good as in my subject, I came to view the procedure, in elderly people, as attended with a risk not easy to explain. Consequently a procedure which could omit systemic anæsthetization and the removal of any organs, even if they were but sentimental attachments, appealed to me. In future cases of prostatic hypertrophy causing retention I will continue to test the efficacy of double ligation; and if its results shall be found to compare favorably with those attributed to castration, the most striking advantage, apart from the increased safety, will be manifest in the patient retaining not only his anatomy but whatever virility these organs may be possessed of; for the artificial occlusion of the vas ought not to affect virility more than does an occluding funiculitis or epididymitis in connection with gonorrhœa.